

ABSTRACT

The object of the present invention is to provide a pattern inspecting technique that can reduce, depending on the kind of materials, damage including shrinkage to materials when the materials are prone to such damage as shrinkage and spoilage caused by electron beam irradiation. A method according to the present invention comprises a step of scanning a sample of a semiconductor device or the like with a primary electron beam, a step of detecting secondary electrons generated or electrons reflected from the semiconductor device or both the former and latter electrons and converting the electrons into signals, and a step of transforming the signals into an image, displaying the image, and detecting defective spots in the circuit pattern of the semiconductor device. In the method and apparatus of the present invention, irradiation density (dose per unit area) of the electron beam is monitored and limited depending on the kind of material of the circuit pattern under inspection and inspecting conditions, and damage such as shrinkage and spoilage to the materials during electron beam irradiation is reduced to an allowable range.